

Peale (A.C.)

DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
J. W. POWELL, DIRECTOR

MINERAL WATERS

BY

A. C. PEALE

ABSTRACT FROM "MINERAL RESOURCES OF THE UNITED STATES,
CALENDAR YEAR 1885"—DIVISION OF MINING
STATISTICS AND TECHNOLOGY



WASHINGTON
GOVERNMENT PRINTING OFFICE
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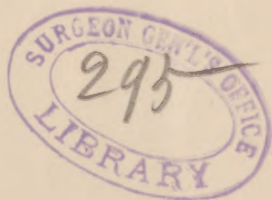
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The returns of mineral waters received for 1885 show an increase of thirty-five in the number of springs, the waters of which were placed on the market. Notwithstanding this fact the production and its value were slightly less than during the previous year. This reduction occurred almost entirely in the North Atlantic, and Southern Central States, and is distributed among only five States in those sections, all the others showing an increase. The principal springs throughout the country not only hold their own, but report increased sales. The general decrease, which is slight, appears to be among some of the smaller and less-known springs, which in first putting the water on sale fixed the prices too high and have since had to reduce them. It is possible also that some of the reports from localities used as resorts, also included the local consumption, which has been eliminated in the reports for 1885. A number of localities used commercially as well as for resorts in 1884, sold no water during 1885, but furnished it free of charge to their guests and made no effort to push the water in the general market. A large number also have been furnishing the water at simply cost of freightage, with the view of introducing it, so that an increase may be expected in future figures.

Alabama.—Of the six mineral springs of Alabama, recorded as placing their waters on sale, only one makes no report for 1885, and of the five sending statistics in 1884 one reports no sales for 1885. The figures included in the statistics are made up from figures given by the following, viz: Bailey springs, Bailey Springs, Lauderdale county; Cullum springs, Bladen Springs, Choctaw county; Bladen springs, Bladen Springs, Choctaw county; Healing springs, Healing Springs, Washington county; White sulphur springs, Sulphur Springs, Calhoun county.

Alaska and Arizona report no mineral waters used commercially.

Arkansas.—In 1884 Arkansas reported six springs, the waters of which were used commercially. One of these now furnishes the water without charge.

The following list records the commercial waters of the State so far as we have received reports: Siloam springs, Siloam Springs, Benton county; Fairchild's potash sulphur springs, Potash Sulphur Springs, Garland county; Eureka springs, Eureka Springs, Carroll county; Mountain Valley springs, Mountain Valley, Garland county.

California has at least ten mineral waters of present commercial value. Only two of these were reported last year.

In the present report the following have given statistics of sales: Pacific Congress springs, Saratoga, Santa Clara county; Castalian mineral water, Olancha, Inyo county; Napa soda springs, Napa Soda Springs, Napa county; Litton's seltzer spring, Litton's Station, Sonoma county; Geyser soda spring, Litton's Station, Sonoma county.

Colorado.—The springs of Colorado are used mainly as resorts. Statistics have been received from but one spring in the State as to commercial use of the water, viz: Seltzer springs, Springdale, Boulder county.

Connecticut.—The report of the previous year contained no statistics from Connecticut, although the two springs reporting this year were noted and placed on the list. They are, Bozrah or Stark mineral springs, Bozrah, New London county; Oxford springs, Oxford, New Haven county.

Dakota, Delaware, District of Columbia, and Florida are not represented in the list of commercial mineral waters.

Georgia.—Only two springs report the sale of waters, viz: Daniel mineral springs, Union Point. Greene county; Ponce De Leon springs, Atlanta, Fulton county.

Idaho reports no waters on sale.

Illinois.—Of the four localities in Illinois whose mineral waters are said to have a commercial value, the following report their figures for 1885: Perry's springs, Perry Springs, Pike county; Zonian springs, near Elgin, Kane county; Glen Flora mineral springs, Waukegan, Lake county.

Indiana.—Although six of seven mineral springs of Indiana reported sales for 1884, this year only five have sent in figures. They are: West Baden springs, West Baden, Orange county; King's mineral springs, Wilson's Switch, Clarke county; New Point Comfort springs, Blue Lick, Clarke county; French Lick springs, French Lick, Orange county; La Fayette artesian well, La Fayette, Tippecanoe county.

Indian Territory has no mineral springs of present commercial value so far as the sale of the waters is concerned.

Iowa.—The list of commercial mineral waters for Iowa is increased to four, from three in the previous year. Of these, however, only the following three report figures: Ottumwa mineral springs, Ottumwa, Wapello county; Dunbar's mineral springs, College Springs, Page county; Colfax springs, Colfax, Jasper county.

Kansas.—The two springs on the list of Kansas mineral waters in 1884 have increased to five for 1885. They are: Iola mineral well, Iola, Allen county; Kansas artesian mineral wells, Manhattan, Riley county; Baxter's medical springs, Baxter Springs, Cherokee county; Geuda mineral springs, Geuda Springs, Sumner county; Arrington mineral springs, Arrington, Atchison county.

Kentucky.—The present list credits Kentucky with six springs whose waters are on the market—an increase of two over the previous year. Only three report figures of production: Upper Blue Lick springs, Davidson, Nicholas county; Bedford springs, Bedford, Trimble county; Lower Blue Lick springs, Blue Lick Springs, Nicholas county.

Louisiana.—So far as learned none of the Louisiana mineral waters are used commercially.

Maine.—Seven of the eleven springs of Maine send statistics of sales for 1885. They are: Rosierucian spring, Rosierucian, Lincoln county; East Boothbay spring, East Boothbay, Lincoln county; Poland mineral spring, South Poland, Androscoggin county; Auburn mineral spring, Auburn, Androscoggin county; Summit mineral spring, Hamson, Cumberland county; Hartford cold spring, Hartford, Oxford county; Scarborough mineral spring, Scarborough, Cumberland county.

Maryland.—The only mineral spring of Maryland reporting sales of the water is Strontia mineral spring, Brooklandville, Baltimore county.

Massachusetts.—The number of mineral waters on sale from Massachusetts in 1885 is reported as seven, instead of three, as given in the previous report. They are the following: Everett Crystal mineral spring, Everett, Middlesex county; Echo Grove mineral spring, Lynn, Essex county; Berkshire soda and sulphur springs, Sheffield, Berkshire county; Bethlehem springs, Holliston, Middlesex county; Commonwealth mineral springs, Waltham, Middlesex county; Allandale mineral spring, West Roxbury, Suffolk county; Crystal mineral spring, Stoneham, Middlesex county.

Michigan.—Four mineral springs of Michigan have waters on sale. Three of these report the sales for 1885. They are as follows: Mount Clemens mineral springs, Mount Clemens, Macomb county; Ypsilanti mineral springs, Ypsilanti, Washtenaw county; Moorman well, Ypsilanti, Washtenaw county.

Minnesota.—The only spring in Minnesota reporting sales of water is Inglewood spring, Minneapolis, Hennepin county.

Mississippi reports sales of waters from four springs in 1885 as against one in 1884. The springs reporting are Godbold mineral well, Summit, Pike county; Castalian spring, Durant, Holmes county; Chalybeate acid spring, Grenada, Grenada county; Cooper's well, Raymond, Hinds county.

Missouri.—Six Missouri mineral springs are included in the returns. They are the following: Mooresville mineral springs, Mooresville, Livingston county; Eldorado springs, Eldorado Springs, Cedar county; Randolph springs, Randolph, Randolph county; Reiger springs, Mercer county (P. O. address, Lineville, Iowa); Sweet springs, Brownville, Saline county; Montesano springs, Kimmswick, Jefferson county.

Montana has none of her mineral waters on the market at present.

Nebraska has no commercial mineral waters.

Nevada is not represented in the list of statistics for the Western States, as none of her mineral waters are put up for sale, so far as ascertained.

New Hampshire.—Of five springs whose waters are sold, the following four have sent in figures for 1885: Birchdale medicinal springs, Concord, Merrimack county; Bradford mineral springs, Bradford, Merrimack county; Moultonborough mineral springs, Moultonborough, Carroll county; Milford (or Ponemah) springs, Milford, Hillsborough county.

New Jersey has no mineral springs whose waters are found in the market.

New Mexico.—Joseph's hot springs, Ojo Caliente (Joseph's), Ojo Caliente, Taos county, are the only ones in New Mexico furnishing any figures for 1885, and are probably the only springs in the Territory which at present regularly utilize the waters commercially, although the water of Aztec springs is sold to some extent in Santa Fé.

New York.—Twenty of the thirty-four localities in New York whose waters are on sale report figures for 1885, and one, Cayuga spring, reported the waters as free.

The statistics included in the tables are based on reports from the following: High Rock spring, Saratoga Springs, Saratoga county; Vichy spring, Saratoga Springs, Saratoga county; Champion spouting spring, Saratoga Springs, Saratoga county; Star spring, Saratoga Springs, Saratoga county; Putnam spring, Saratoga Springs, Saratoga county; Union spring, Saratoga Springs, Saratoga county; Excelsior spring, Saratoga Springs, Saratoga county; Victor spring, Darien Center, Genesee county; Sharon spring, Sharon Springs, Schoharie county; Deep Rock spring, Oswego, Oswego county; Artesian lithia spring, Ballston Spa, Saratoga county; Verona mineral spring, Verona, Oneida county; Diamond Rock spring, Williamson, Wayne county; Nunda mineral spring, Nunda, Livingston county; Massena springs, Massena, Saint Lawrence county; Richfield springs, Richfield Springs, Otsego county; Chlorine springs, Syracuse, Onondaga county; Adirondack springs, White Hall, Washington county; Oak Orchard acid springs, Alabama, Genesee county; Lebanon springs, Lebanon Springs, Columbia county.

North Carolina has seven springs whose waters have a commercial value. Four of these have reported. One locality, Lemon Springs, which reported sales for 1884, now reports that the water during 1885 was distributed gratuitously. The following are the springs reporting figures: Panacea springs, Littleton, Halifax county; Leinster poison spring, Statesville, Iredell county; Parks alkaline spring, Casewell county (P. O. address, Dauville, Va.); Seven springs, Seven springs, Wayne county.

Ohio.—The Ohio list for 1885 includes seven springs, an increase of one. The following have sent reports: Electro-Magnetic springs,

Woodstock, Champaign county; Green springs, Green Spring, Seneca county; Wyandot magnetic springs, Upper Sandusky, Wyandot county; Len-a-pe Magnetic springs, Delaware, Delaware county; Ohio Magnetic springs, Magnetic Spring, Union county; Cuyahoga lithia spring, Parma, Cuyahoga county.

Oregon has three springs whose waters are offered for sale. The two reporting are: McCallister's soda springs, 35 miles east of Jacksonville, Jackson county; Wilhoit springs, Wilhoit, Clackamas county.

Pennsylvania.—Five Pennsylvania springs report figures for 1885. They are the following: Black Barren mineral springs, Pleasant Grove, Lancaster county; Bedford springs, Bedford, Bedford county; Gettysburg Katsalpine and Lithia springs, Gettysburg, Adams county; Minnequa springs, Minnequa, Bradford county; Gulyek and Gaylord spring, Blossburg, Tioga county.

Rhode Island.—The list for 1884 contained no data as to the springs of Rhode Island. Since then reports have been received from the following springs in that State: Holly spring, Woonsocket, Providence county; Ochee springs, Providence, Providence county.

South Carolina.—The statistics given for 1885 include figures from three of the South Carolina springs as against one for the previous year. They are: Glenn springs, Spartansburgh, Spartansburgh county; Garrett's spring, Spartansburgh, Spartansburgh county; Chick's spring, Chick's Springs, Greenville county.

Tennessee reports sales of eight mineral waters in the State, an increase of one as compared with the return for 1884. The springs reporting are the following: Tate's epsom springs, Tate Springs, Grainger county; Rhea springs, Rhea Springs, Rhea county; Red Boiling springs, Red Boiling Springs, Macon county; Idaho springs, near Clarksville, Montgomery county; Mineral Hill spring, Bean's Station, Grainger county; West End mineral spring, Nashville, Davidson county; Hurricane springs, Tullahoma, Coffee county; Horn's mineral spring, Lebanon, Wilson county.

Texas has eight springs whose waters are sold to a greater or less extent. Seven of these report as follows: Wootan wells, Wootan Wells, Robertson county; Mineral wells, Mineral Wells, Palo Pinto county; Texas sour springs, Luling, Caldwell county; Crabtree sour wells, Sulphur, Hopkins county; Sour Lake springs, Sour Lake, Hardin county; Hynson's Iron Mountain springs, Marshall, Hamson county; Dalby springs, Dalby Springs, Bowie county.

Utah.—So far as learned none of the Utah mineral waters are seen in the market.

Vermont.—Only four of the eight springs on the list, credited to Vermont, make reports for 1885. They are: Clarendon springs, Clarendon Springs, Rutland county; Alburgh springs, Alburgh springs, Grand Isle county; Elgin springs, Panton (P. O., Vergennes), Addison county; Brunswick white sulphur spring, Brunswick, Essex county.

Virginia.—Sixteen of Virginia's springs report sales for 1885. The entire list includes twenty-one or twenty-two springs. The following are those reporting figures: Jordan white sulphur springs, Stephenson's Depot, Frederick county; Farmville lithia springs, Farmville, Prince Edward county; Blue Ridge springs, Blue Ridge Springs Botetourt county; Seven springs, Abingdon, Washington county; Rawley springs, Rawley Springs, Rockingham county; Massanetta mineral springs, Harrisonburg, Rockingham county; Bath Alum springs, Bath Alum, Bath county; Rockingham Virginia springs, Rockingham, Rockingham county; Healing springs, Healing Springs, Bath county; Wolf Trap lithia springs, Richmond, Henrico county; Hunter's Pulaski alum springs, Dublin, Pulaski county; Rock Enon springs, Rock Enon Springs, Frederick county; Shenandoah alum springs, Shenandoah Alum Springs, Shenandoah county; Cold sulphur springs, Goshen, Rockbridge county; Wallawhatoola alum springs, Millborough Depot, Bath county; Buffalo lithia springs, Buffalo Lithia Springs, Mecklenburgh county.

Washington Territory.—The Medical Lake, Medical Lake, Spokane county, is the only mineral water of the Territory on sale. The waters are evaporated and the residuum is largely sold in addition to the water.

West Virginia.—All of the six localities of West Virginia whose mineral waters are on sale have sent reports for 1885. These springs are as follows: Greenbrier white sulphur spring, White Sulphur Springs, Greenbrier county; Salt sulphur springs, Salt Sulphur Springs, Monroe county; Irondale springs, Raccoon, Preston county; Mineral wells, Parkersburg, Wood county; Capon springs, Capon Springs, Hampshire county; Red sulphur springs, Red Sulphur Springs.

Wisconsin.—About fifteen of Wisconsin's mineral waters are used commercially. Of these, reports have been received from thirteen, as follows: Glenn spring, Waukesha, Waukesha county; Shealtiel springs, Waupaca, Waupaca county; Mineral Rock spring, Waukesha, Waukesha county; Vesta mineral spring, Waukesha, Waukesha county; Zenobia fountain spring, Palmyra, Jefferson county; Bethesda mineral springs, Waukesha, Waukesha county; White Rock mineral spring, Waukesha, Waukesha county; Siloam mineral spring, Waukesha, Waukesha, county; Horeb mineral springs, Waukesha, Waukesha county; Saint Croix mineral spring, Farmington, Polk county; Gihon mineral spring, Delavan, Walworth county; Iodo magnesian spring, Beloit, Rock county; Prairie du Chien artesian well, Prairie du Chien, Crawford county.

Wyoming Territory.—None of the mineral waters of Wyoming are used commercially.

Summary of reports of mineral springs for 1885.

	Springs report- ing statistics.	Springs not re- porting.	Total springs used commer- cially.		Springs report- ing statistics.	Springs not re- porting.	Total springs used commer- cially.
North Atlantic States:				Northern central States:			
Maine	7	4	11	Ohio	6	1	7
New Hampshire	4	1	5	Indiana	5	2	7
Vermont	4	1	5	Illinois	3	1	4
Massachusetts	7	0	7	Michigan	3	1	4
Rhode Island	2	0	2	Wisconsin	13	2	15
Connecticut	2	0	2	Minnesota	1	0	1
New York	20	14	34	Iowa	3	1	4
New Jersey	0	0	0	Missouri	6	1	7
Pennsylvania	5	0	5	Dakota	0	0	0
South Atlantic States:				Nebraska	0	0	0
Delaware	0	0	0	Kansas	5	0	5
Maryland	1	0	1	Western States and Territories:			
District of Columbia	0	0	0	Alaska	0	0	0
Virginia	16	5	21	Wyoming	0	0	0
West Virginia	6	0	6	Montana	0	0	0
North Carolina	4	3	7	Colorado	1	0	1
South Carolina	3	0	3	New Mexico	1	1	2
Georgia	2	1	3	Arizona	0	0	0
Florida	0	0	0	Utah	0	0	0
Southern central States:				Nevada	0	0	0
Kentucky	3	3	6	Idaho	0	0	0
Tennessee	3	0	3	Washington	1	0	1
Alabama	5	1	6	Oregon	2	1	3
Mississippi	4	0	4	California	5	6	11
Louisiana	0	0	0				
Texas	7	1	8	Total	169	55	224
Indian Territory	0	0	0				
Arkansas	1	1	2				

PRODUCTION.*Natural mineral waters sold in 1883, 1884, and 1885.*

	Springs reporting in 1883 and 1884.	1883.		1884.		Springs reporting in 1885.	1885.	
		Gallons sold.	Value.	Gallons sold.	Value.		Gallons sold.	Value.
North Atlantic States	38	2,470,670	\$282,270	3,345,760	\$328,125	51	2,527,310	\$192,606
South Atlantic States	27	312,090	64,973	464,718	103,191	32	908,692	237,153
Northern central States	37	1,435,809	323,606	2,070,583	420,615	45	2,925,288	446,241
Southern central States	21	1,441,042	139,973	1,526,817	147,112	31	540,436	74,100
Western States and Territories	6	169,812	52,787	307,500	85,200	10	509,675	86,776
	129	5,829,423	863,603	7,715,328	1,084,143	169	7,411,401	1,026,845
Estimated	60	1,700,000	256,000	2,500,000	375,000	55	1,737,000	276,000
Total	189	7,529,423	1,119,603	10,215,328	1,459,143	224	9,148,401	1,312,845

In the last report the figures for the northern central States included the entire output of the artesian wells of Madison, Wisconsin, the greater portion of which, however, was used as the regular city supply for domestic purposes. This consumption, although of a strictly "mineral water," is now excluded from the computation, and in the foregoing table the figures for 1883 and 1884 have been somewhat changed from those given in the preceding report, the reduction being more in point of quantity than in value.

IMPORTS.

Mineral waters imported and entered for consumption in the United States, 1867 to 1883, inclusive.

Fiscal years ending June 30—	In bottles of 1 quart or less.		In bottles in excess of 1 quart.		Not in bottles.		All, not artificial.		Total.
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
	<i>Bottles.</i>		<i>Quarts.</i>		<i>Gallons.</i>		<i>Gallons.</i>		
1867	370, 610	\$24, 913	3, 792	\$360		\$137			\$25, 410
1868	241, 702	18, 438	22, 819	2, 052	554	104			20, 594
1869	344, 691	25, 635	9, 739	802	1, 042	245			26, 682
1870	433, 212	30, 680	18, 025	1, 743	2, 063	508			32, 931
1871	470, 947	34, 604	2, 320	174	1, 336	141			34, 919
1872	892, 913	67, 951			639	116			68, 067
1873	35, 508	2, 326			355	75	394, 423	\$98, 151	100, 552
1874	7, 238	691			95	16	199, 035	79, 789	80, 496
1875	4, 174	471			5	2	395, 956	101, 640	102, 113
1876	25, 758	1, 899					447, 646	134, 889	136, 788
1877	12, 965	1, 328				22	520, 751	167, 458	168, 808
1878	8, 229	815					883, 674	350, 912	351, 727
1879	28, 440	2, 352			3	4	798, 107	282, 153	284, 600
1880	207, 554	10, 731					927, 759	285, 798	305, 529
1881	150, 326	11, 850			55	26	1, 225, 462	383, 616	395, 492
1882	152, 277	17, 010					1, 542, 905	410, 105	427, 115
1883	88, 497	7, 054					1, 714, 085	441, 439	448, 493

It appears from the foregoing table that previous to 1873 natural mineral waters were not distinguished from the artificial waters. Since 1884 the artificial waters have not been classified according to the receptacles in which they have been imported.

Imports for the fiscal years 1884 and 1885.

	1884.		1885.	
	Gallons.	Value.	Gallons.	Value.
Artificial mineral waters	29, 366	\$4, 591	7, 972	\$2, 157
Natural mineral waters	1, 505, 298	362, 651	1, 660, 072	397, 875
Total	1, 534, 664	367, 242	1, 668, 044	400, 032

EXPORTS.

Exports of natural mineral waters, of domestic production, from the United States.

Fiscal years ending June 30—	Value.	Fiscal years ending June 30—	Value.
1875	\$162	1881	\$1, 029
1876	80	1882	421
1879	1, 529	1883	450
1880	1, 486	1884 and 1885	None.

The amount of artificial mineral waters exported is also trifling.

